



**Powerware® BladeUPS® Bar  
Installation Guide**

## Special Symbols

The following are examples of symbols used on the UPS or accessories to alert you to important information:



**RISK OF ELECTRIC SHOCK** - Observe the warning associated with the risk of electric shock symbol.



**CAUTION: REFER TO OPERATOR'S MANUAL** - Refer to your operator's manual for additional information, such as important operating and maintenance instructions.



This symbol indicates that you should not discard the UPS or the UPS batteries in the trash. This product contains sealed, lead-acid batteries and must be disposed of properly. For more information, contact your local recycling/reuse or hazardous waste center.



This symbol indicates that you should not discard waste electrical or electronic equipment (WEEE) in the trash. For proper disposal, contact your local recycling/reuse or hazardous waste center.

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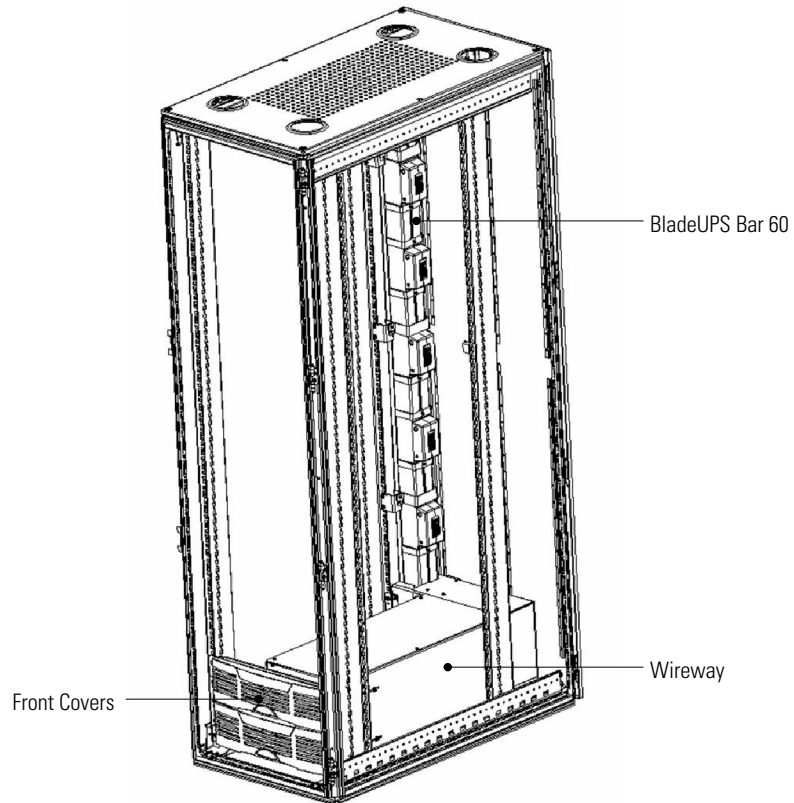
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## Chapter 1 Introduction

Up to six of Eaton's Powerware® BladeUPS® uninterruptible power systems (UPSs) can be installed in an industry standard rack outfitted with a BladeUPS Bar 60 for interconnecting the cabinets' wiring.

Figure 1 shows an installed BladeUPS Bar 60. The wireway fits into the bottom 6U of standard rack space.



**Figure 1. BladeUPS Bar 60 Installed in Rack**

## Safety Warnings

### **IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS**

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This manual contains important instructions that you should follow during installation and maintenance of the BladeUPS Bar 60. Please read all instructions before operating the equipment and save this manual for future reference.

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### **VIGTIGE SIKKERHEDSANVISNINGER GEM DISSE ANVISNINGER**

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Denne manual indeholder vigtige instruktioner, som skal følges under installation og betjening af BladeUPS Bar 60-enheden. Læs venligst alle instruktioner inden betjening af udstyret og gem denne manual mhp. fremtidige opslag.

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### **BELANGRIJKE VEILIGHEIDSINSTRUCTIES BEWAAR DEZE INSTRUCTIES**

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Deze handleiding bevat belangrijke instructies die u dient te volgen tijdens de installatie en het gebruik van BladeUPS Bar 60. Lees alle instructies voordat u de apparatuur in bedrijf neemt en bewaar deze handleiding als naslagwerk.

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### **TÄRKEITÄ TURVAOHJEITA - SUOMI SÄILYÄ NÄMÄ OHJEET**

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Tämä käyttöohje sisältää tärkeitä ohjeita, joita on noudatettava BladeUPS Bar 60-yksikön asennuksen ja käytön yhteydessä. Lue kaikki ohjeet ennen laitteiston käyttöä ja säilytä ohje myöhempää tarvetta varten.

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### **CONSIGNES DE SÉCURITÉ IMPORTANTES CONSERVER CES INSTRUCTIONS**

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Ce manuel contient des instructions importantes que vous êtes invité à suivre lors de toute procédure d'installation et de fonctionnement de la BladeUPS Bar 60. Veuillez consulter entièrement ces instructions avant de faire fonctionner l'équipement et conserver ce manuel afin de pouvoir vous y reporter ultérieurement.

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## **WICHTIGE SICHERHEITSANWEISUNGEN AUFBEWAREN**

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Dieses Handbuch enthält wichtige Hinweise, welche Sie bei der Installation und Wartung des BladeUPS Bar 60 beachten sollten. Bitte lesen Sie alle Anweisungen des Handbuchs bevor sie mit dem Gerät arbeiten. Bewahren Sie das Handbuch zum Nachlesen auf.

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## **IMPORTANTI ISTRUZIONI DI SICUREZZA CONSERVARE QUESTE ISTRUZIONI**

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Il presente manuale contiene importanti istruzioni da seguire durante l'installazione e il funzionamento di BladeUPS Bar 60. Leggere integralmente le istruzioni prima di utilizzare l'apparecchiatura e conservare il presente manuale per futuro riferimento.

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## **VIKTIGE SIKKERHETSINSTRUKSJONER GJEM DISSE INSTRUKSJONENE**

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Denne håndboken inneholder viktige instruksjoner som du bør overholde ved montering og bruk av BladeUPS Bar 60. Les alle instruksjoner før utstyret tas i bruk, og gjem håndboken til fremtidig referanse.

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## **INSTRUÇÕES DE SEGURANÇA IMPORTANTES GUARDE ESTAS INSTRUÇÕES**

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Este manual contém instruções importantes que devem ser seguidas durante a instalação e operação da BladeUPS Bar 60. Leia todas as instruções antes de operar o equipamento e guarde este manual para consultá-lo futuramente.

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## **ВАЖНЫЕ УКАЗАНИЯ ПО МЕРАМ БЕЗОПАСНОСТИ СОХРАНИТЕ ЭТИ УКАЗАНИЯ**

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В данном руководстве содержатся важные инструкции по установке и обслуживанию внешнего батарейного модуля или устройства распределения электропитания. Перед работой с оборудованием прочтите все инструкции. Сохраните данное руководство для дальнейшего использования.

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## **INSTRUCCIONES DE SEGURIDAD IMPORTANTES GUARDE ESTAS INSTRUCCIONES**

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Este manual contiene instrucciones importantes que debe seguir durante la instalación y el funcionamiento del BladeUPS Bar 60. Por favor, lea todas las instrucciones antes de poner en funcionamiento el equipo y guarde este manual para referencia en el futuro.

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## **VIKTIGA SÄKERHETSFÖRESKRIFTER SPARA DESSA FÖRESKRIFTER**

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Den här anvisningen innehåller viktiga instruktioner som du ska följa under installation och användning av BladeUPS Bar 60. Läs alla instruktioner innan du använder utrustningen och spara den här anvisningen för framtida referens.

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## Chapter 2 Installation

This section explains:

- Equipment inspection
- BladeUPS Bar 60 setup and installation

### Inspecting the Equipment

If any equipment has been damaged during shipment, keep the shipping cartons and packing materials for the carrier or place of purchase and file a claim for shipping damage. If you discover damage after acceptance, file a claim for concealed damage.

To file a claim for shipping damage or concealed damage: 1) File with the carrier within 15 days of receipt of the equipment; 2) Send a copy of the damage claim within 15 days to your service representative.



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**NOTE** Check the battery recharge date on the shipping carton label. If the date has expired and the batteries were never recharged, do not use the UPS. Contact your service representative.

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### Setup

The BladeUPS Bar 60 comes with all hardware required for installation in a standard EIA or JIS rack with square and round mounting holes.

#### Tools Required

To assemble the components, the following tools may be needed:

- Torque wrench with the following attachments:
  - Hex socket size 10 mm for M6 hex bolt
  - Hex socket size 8 mm for M5 hex bolt
- Torque driver with a Pozidriv® #2 for Pozidriv M4 screw
- Large screwdriver or crowbar for lifting the bar in place
- Pliers for installing cage nuts

## Checking the Package Contents

Verify that the following items are included:

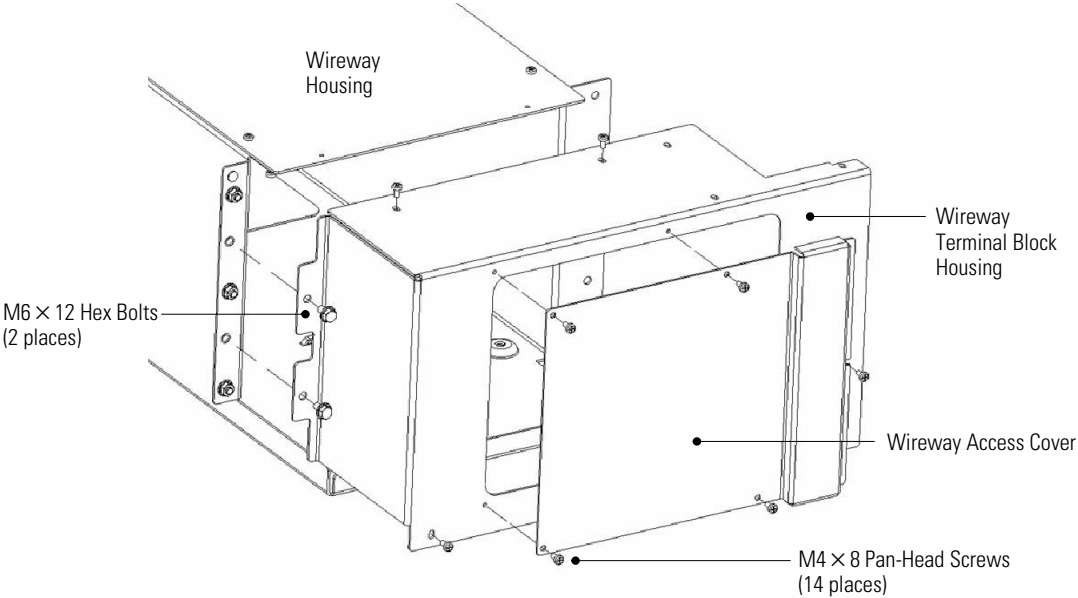
- BladeUPS Bar 60
  - A six-socket bar with (1) attached terminal block assembly, (1) attached base bracket, and (3) attached mounting brackets
- Wireway main housing with (2) attached side brackets, (1) attached terminal block housing, and (1) attached wireway access cover
- Front cover mounting panel
- (2) front covers
- Ferrite assembly with 38 cm (15") tie wrap
- This user's guide
- Packaged hardware items:
  - (14) M6 × 12 hex bolts, plus (1) extra
  - (4) M5 × 16 hex bolts
  - (6) M6 × 12 pan-head screws, plus (1) extra
  - (16) M4 × 8 pan-head screws
  - (6) M6 split lock washers, plus (1) extra
  - (4) M5 cage nuts
  - (3) M6 hex nuts, plus (1) extra

# Installation

To install the BladeUPS Bar 60:

- 1. Remove the access cover and terminal block housing from the wireway housing (see Figure 2). Retain the wireway terminal block housing, wireway access cover, and screws. Leave the two side brackets installed on the wireway housing (see side bracket locations in Figure 3).
- 2. Verify that the side brackets are in the most closed position and that the adjustment screws are tightened to prevent the side brackets from moving.

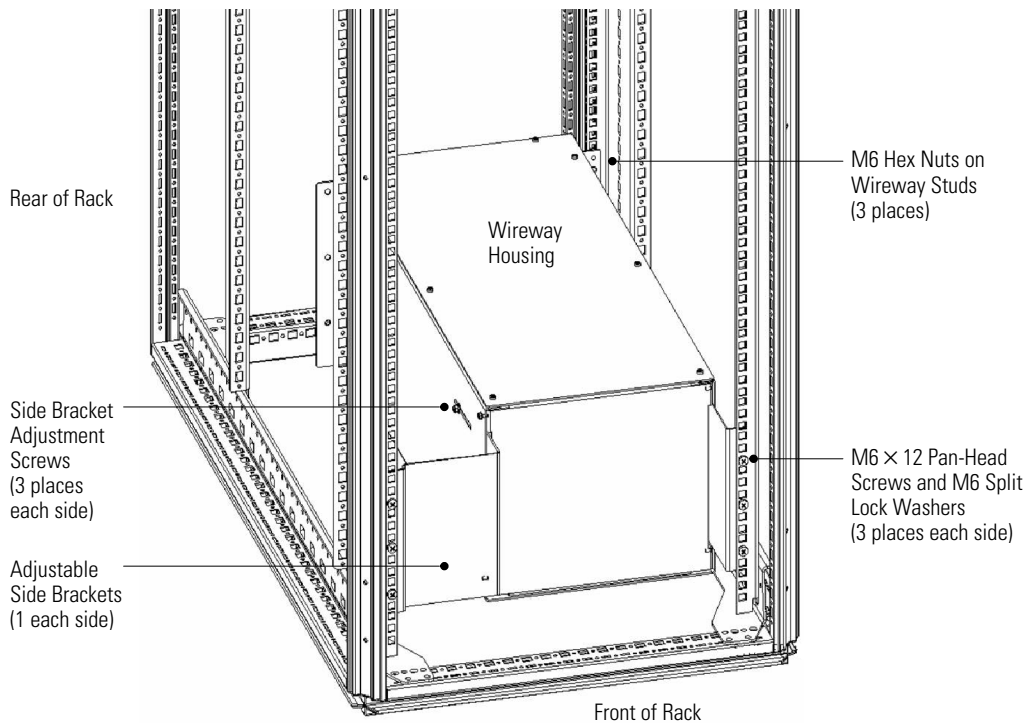
 **CAUTION**  
If the side brackets are loose, they can move during wireway placement and cause injury.



**Figure 2. Wireway Disassembly**

- 3. Place the wireway housing into the bottom of the rack so that the adjustable side brackets are at the front of the rack (see Figure 3).

4. Install an M6 hex nut onto each of the three wireway studs to secure the wireway to the rear of the rack. Install the first stud in the fourth hole location from the bottom. Do not tighten the nuts. Figure 4 shows the nuts installed.
5. Loosen the three adjustment screws on each side of the wireway housing and adjust the side brackets for the depth of the rack. Do not retighten the screws.
6. Install six M6 × 12 pan-head screws and M6 split lock washers to secure the two wireway side brackets to the front of the rack. Install the first screws in the fifth hole location from the bottom. Torque the screws to  $5.1 \pm 0.8$  Nm ( $45 \pm 7$  lb in).
7. Tighten the three M6 hex nuts installed in Step 4. Torque the nuts to  $5.1 \pm 0.8$  Nm ( $45 \pm 7$  lb in).
8. Retighten the six side bracket adjustment screws loosened in Step 5. Torque to 3.4 Nm (30 lb in).

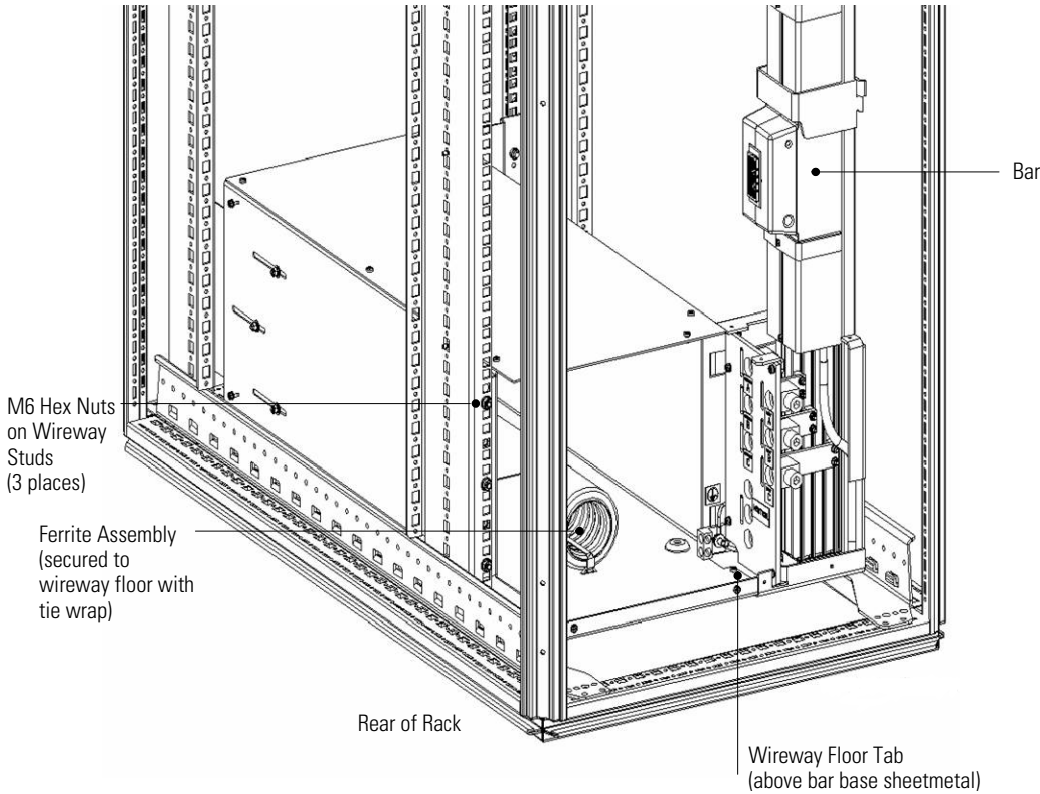


**Figure 3. Wireway Installation**

- 9. Place the ferrite assembly on the floor of the wireway and secure with the supplied tie wrap. Loop the tie wrap through both attachment sites on the wireway floor and through the ferrite assembly. See Figure 4.
- 10. Note the orientation of the base bracket installed on the bar for later re-installation (see Figure 5). Remove and retain the base bracket and hardware.
- 11. Place the bar in the rack as shown in Figure 4.



**NOTE** The bar can rest on the floor of the rack until secured in place. After complete installation, the bar will be secured to the rack and wireway as shown in Figure 4.



**Figure 4. Ferrite and Bar Placement**



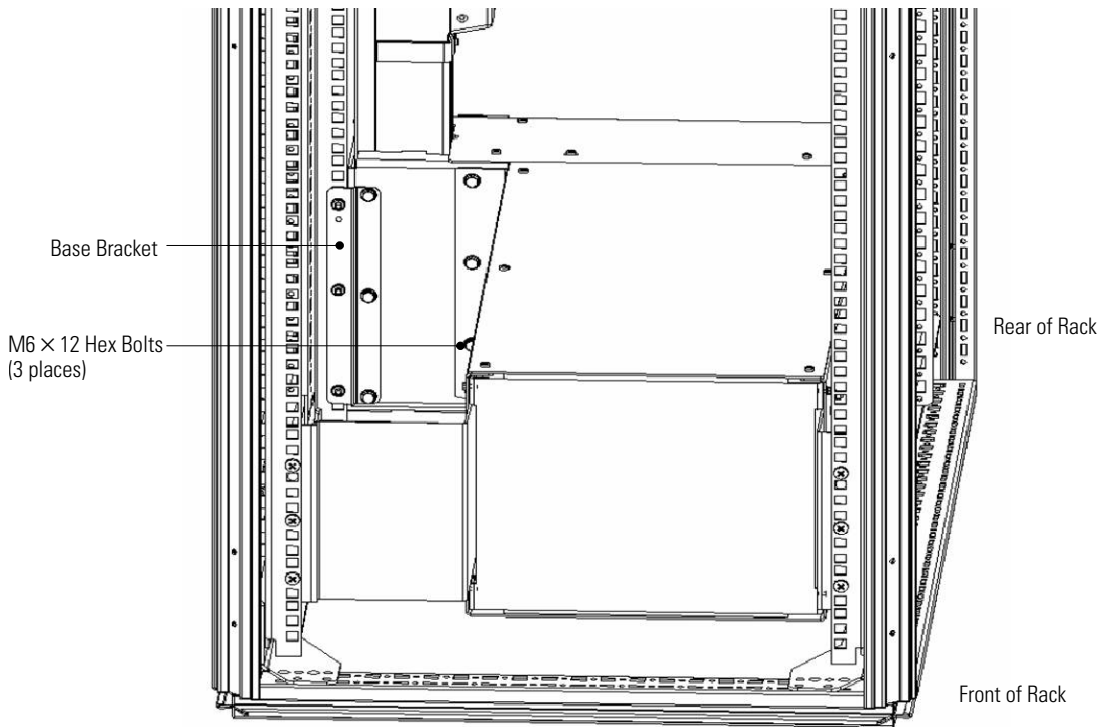
**NOTE** Verify that the bar is secure as shown in Figure 4. The sheetmetal at the base of the bar should be below the tab on the wireway floor.

**12.** Secure the bar to the wireway with three M6 × 12 hex bolts. Install the bolts from the **front** of the rack. See Figure 5. Torque the bolts to  $5.1 \pm 0.8$  Nm ( $45 \pm 7$  lb in).

**13.** Reinstall the base bracket removed in Step 10. Install the bolts from the **front** of the rack. See Figure 5. Torque the bolts to  $5.1 \pm 0.8$  Nm ( $45 \pm 7$  lb in).



**NOTE** Do not change the original orientation of the base bracket. Verify that the threaded holes mount to the rack, not to the bar.



**Figure 5. Bar Base Installation**

- 14. Secure the base bracket to the rack with three M6 × 12 hex bolts. Install the bolts from the **rear** of the rack.

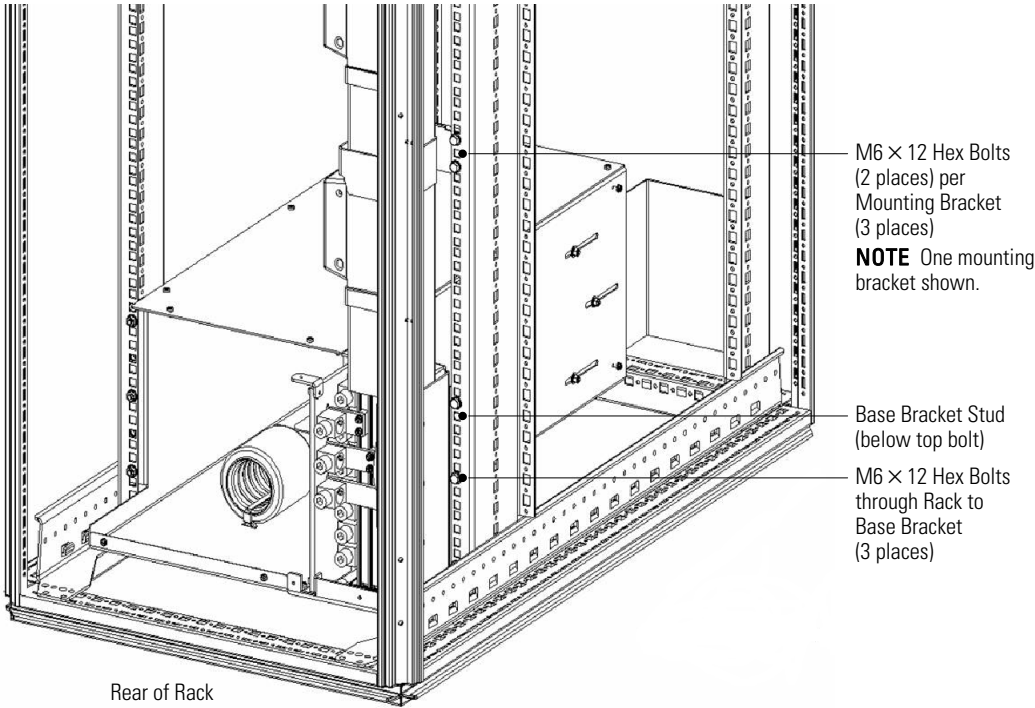
Use a large screwdriver or crowbar to lift the bar in place to align the holes in the base bracket with the holes in the rack.

Install the lowest bolt in position 2, then use positions 9 and 15. Verify that the base bracket stud aligns completely with the rack hole below the top bolt (position 14). See Figure 6. Torque the bolts to 5.1 ± 0.8 Nm (45 ± 7 lb in).

- 15. Install two M6 × 12 hex bolts in each of the bar’s three mounting brackets, securing the length of the bar to the rack. See Figure 6. Torque the bolts to 5.1 ± 0.8 Nm (45 ± 7 lb in).

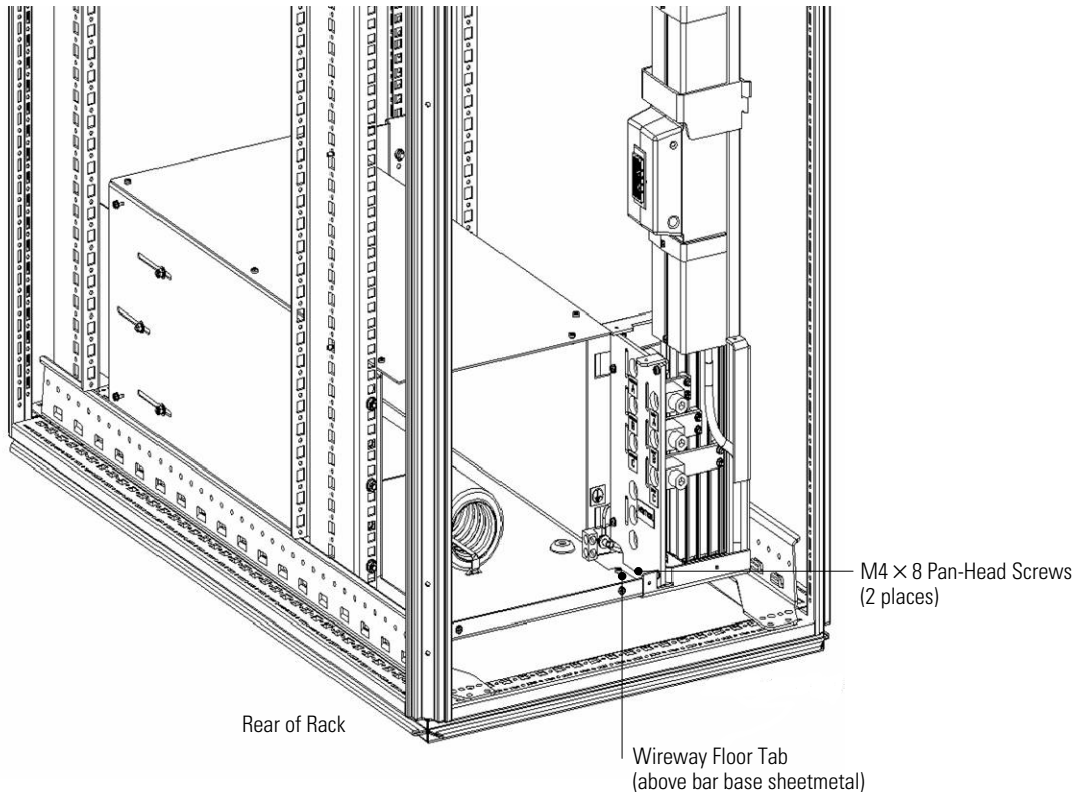


**NOTE** Loosening the mounting brackets slightly may allow easier alignment to the vertical rail of the rack. Retighten the mounting brackets when alignment is complete.



**Figure 6. Bar Bracket Installation**

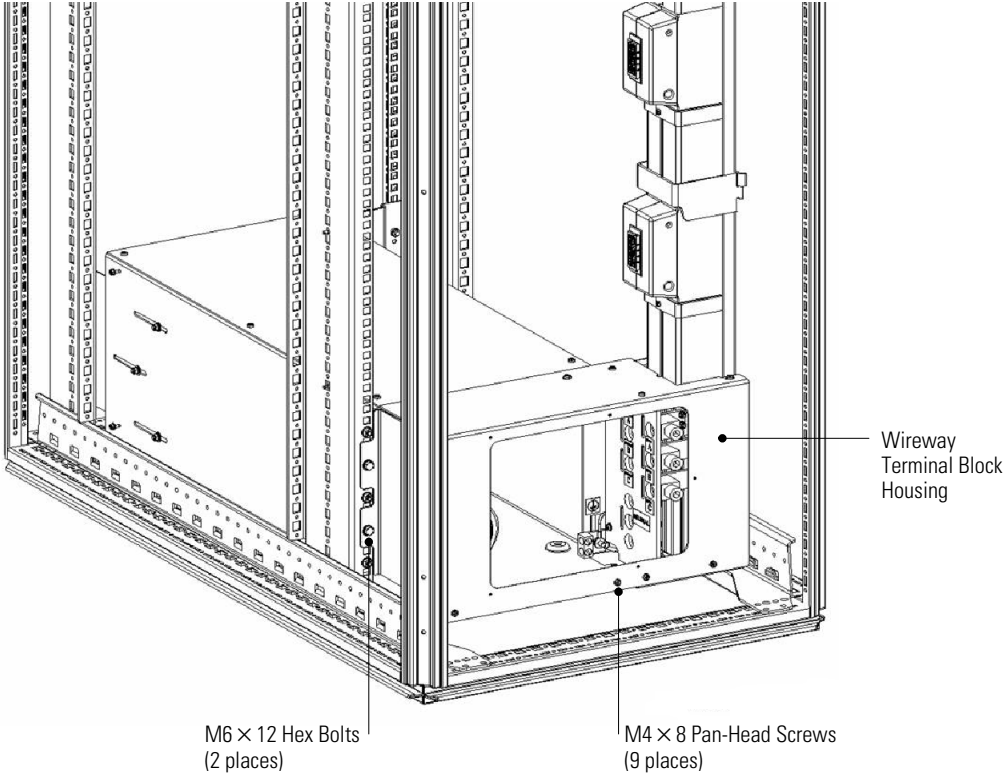
16. Install two M4 × 8 pan-head screws into the tab on the wireway floor, securing the base of the bar to the wireway. See Figure 7. Torque the screws to  $1.7 \pm 0.2$  Nm ( $15 \pm 2$  lb in).



**Figure 7. Wireway Tab Attachment**

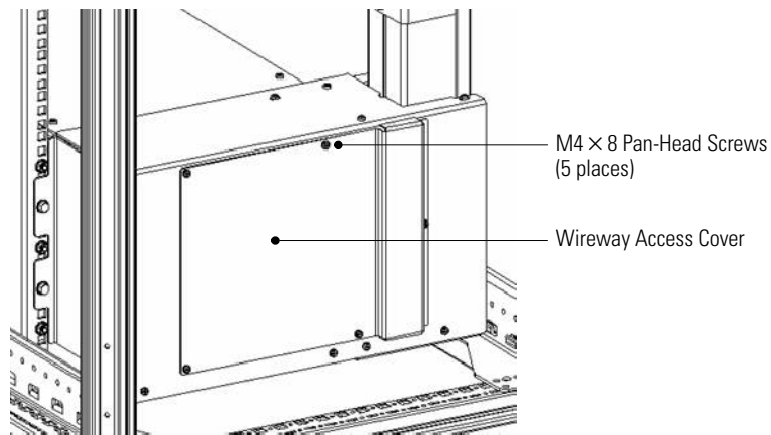


- 17. Using two M6 × 12 hex bolts, secure the left side of the wireway terminal block housing to the rack. See Figure 8. Torque the bolts to  $5.1 \pm 0.8$  Nm ( $45 \pm 7$  lb in).
- 18. Using nine M4 × 8 pan-head screws, secure the wireway terminal block housing to the wireway and to the bar. See Figure 8. Torque the screws to  $1.7 \pm 0.2$  Nm ( $15 \pm 2$  lb in).



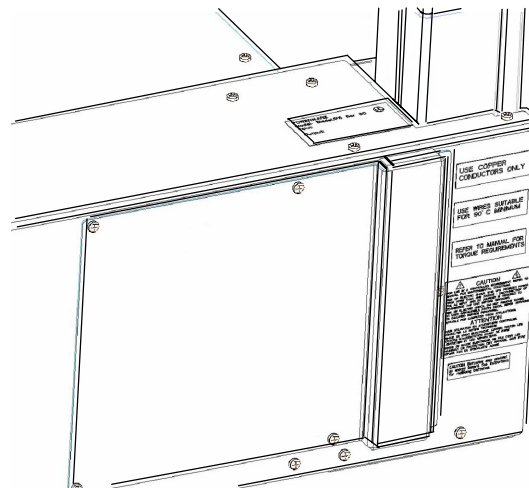
**Figure 8. Wireway Terminal Block Housing Installation**

19. Using five M4 × 8 pan-head screws, install the wireway access cover. See Figure 9. Torque the screws to  $1.7 \pm 0.2$  Nm ( $15 \pm 2$  lb in).



**Figure 9. Wireway Access Cover Installation**

20. Verify the six information labels are attached to the wireway as shown in Figure 10.



**Figure 10. Wireway Labels**

- 21. Using four M5 × 16 hex bolts and four M5 cage nuts, secure the front cover mounting panel to the front of the rack. Verify that the bent edge of the panel is at the top. See Figure 11.

Install the lower bolts and cage nuts into the second holes from the bottom of the rack frame. Torque the bolts to  $5.1 \pm 0.8 \text{ Nm}$  ( $45 \pm 7 \text{ lb in}$ ).

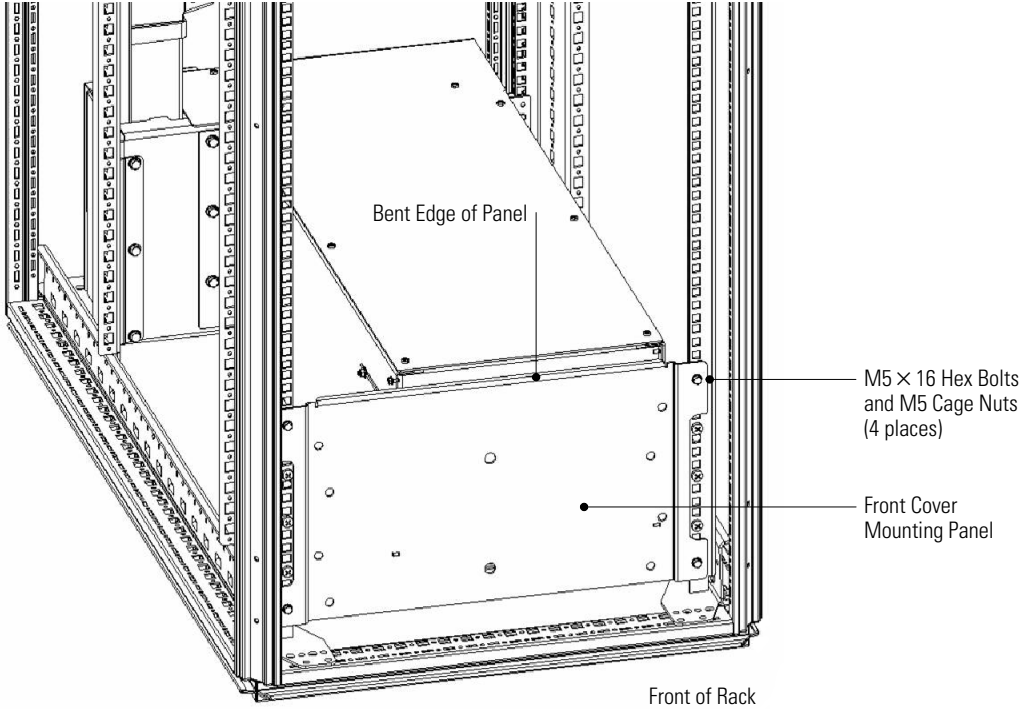
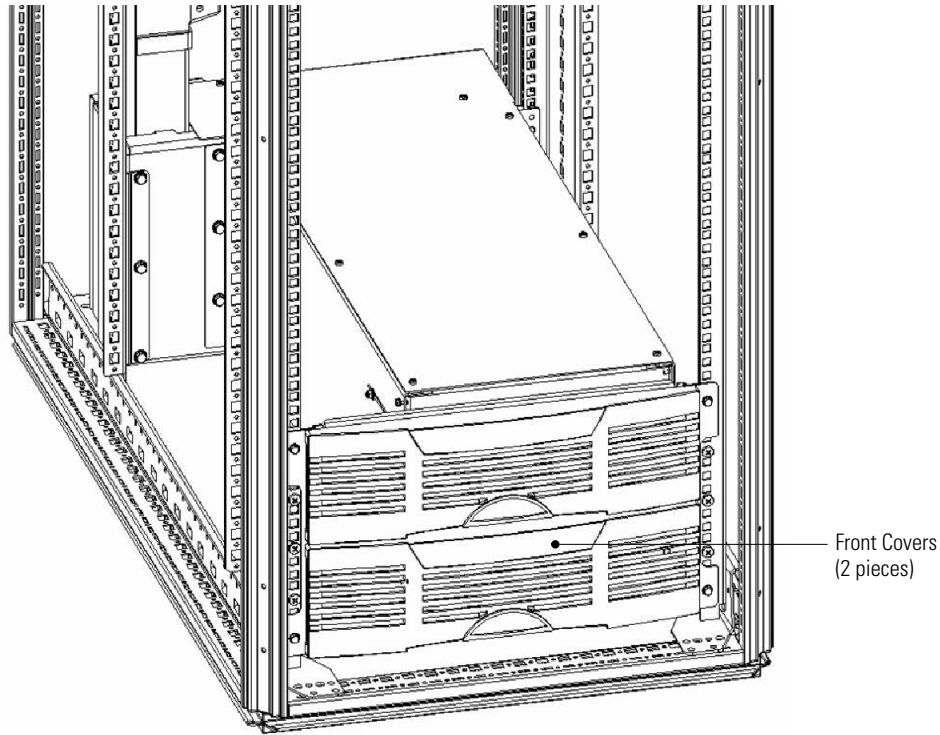


Figure 11. Front Cover Mounting Panel Installation

22. Snap the two front covers into place, as shown in Figure 12.



**Figure 12. Front Cover Installation**

## Chapter 3 Specifications

This section provides the following specifications:

**Table 1. BladeUPS Bar 60**

|                           |   |
|---------------------------|---|
| <b>Dimensions (WxDxH)</b> | 14.0 × 11.3 × 183.8 cm (5.5" × 4.4" × 72.4")  |
| <b>Depth of Wireway</b>   | 90.1 cm (35.5"), excluding front covers   |
| <b>Weight</b>             | Bar: 19 kg (42 lb)<br>Wireway enclosure: 20 kg (45 lb)<br>Total Weight: 39 kg (87 lb) |
| <b>UPS Connections</b>    | Up to 6, using Anderson input/output connectors                                       |
| <b>Rack Placement</b>     | Bottom wireway fits into the bottom 6U of standard rack space                         |



## Chapter 4 Service and Support

If you have any questions or problems with the BladeUPS Bar, call your **Local Distributor** or the **Help Desk** at one of the following telephone numbers and ask for a UPS technical representative.

United States: **1-800-843-9433** or **1-919-870-3028**  
Canada: **1-800-461-9166 ext 260**  
All other countries: **Call your local service representative**

Please have the following information ready when you call the Help Desk:

- Model number
- Serial number
- Version number (if available)
- Date of failure or problem
- Symptoms of failure or problem
- Customer return address and contact information

If repair is required, you will be given a Returned Material Authorization (RMA) Number. This number must appear on the outside of the package and on the Bill Of Lading (if applicable). Use the original packaging or request packaging from the Help Desk or distributor. Units damaged in shipment as a result of improper packaging are not covered under warranty. A replacement or repair unit will be shipped, freight prepaid for all warrantied units.



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**NOTE** For critical applications, immediate replacement may be available. Call the **Help Desk** for the dealer or distributor nearest you.

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